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REMARKS

Claims 1-12 and 14 - 20 are currently pending in the subject application and are presently under consideration. Favorable reconsideration of the subject patent application is respectfully requested in view of the amendments and comments herein.

**I. Rejection of Claims 1-7 Under 35 U.S.C. §103(a)**

Claims 1-7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Peng *et al.* (U.S. 5,787,190) in view of Le *et al.* (U.S. 5,801,954). Withdrawal of this rejection is requested for at least the following reasons. The cited references, either alone or in combination, fail to teach or suggest all elements of the subject claims.

To reject claims in an application under §103, an examiner must establish a *prima facie* case of obviousness. A *prima facie* case of obviousness is established by a showing of three basic criteria. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. See MPEP §706.02(j). The teaching or suggestion to make the claimed combination and the reasonable expectation of success must be found in the prior art and not based on the Applicant's disclosure. See *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Applicants' claimed invention relates to utilizing feedback or feed-forward systems in the fabrication of a reticle to reduce critical dimension variance resulting from imperfections in process control or device performance. In particular, independent claim 1 as amended recites a reticle fabrication device and *a regulation component that receives reticle inspection data from the fabrication device and utilizes the data to facilitate adjusting control parameters of the fabrication device to improve reticle fabrication by mitigating defects associated with delay times*. Peng *et al.* and Le *et al.*, either alone or in combination, do not teach or suggest these aspects of the claimed invention.

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Peng *et al.* relates to an automated system and procedure that processes wafer test bin data of semiconductor wafers to formulate a fault pattern at statistically significant levels. (See Abstract). The pattern shows the location of faulty dice and which test discovered the fault. (See Summary). The data is sent back to a fabrication plant to attempt to increase wafer yields. (See col. 3, ll. 58-60). The wafers of integrated circuit are the finished products of the fabrication plant. The finished product wafers are then given to the testing components. (See col. 3, ll. 5-30). However, Peng *et al.* does not disclose a regulation component that receives reticle inspection data *from the fabrication device*. Peng *et al.* discloses a fabrication plant that produces the wafers but does not provide any inspection or testing data. Rather, the inspection data is produced by the testing components that are distinct and separate from the fabrication plant. Thus, Peng *et al.* fails to teach or suggest receiving *reticle inspection data from the fabrication plant* as recited in independent claim 1.

Moreover, Peng *et al.* does not disclose, teach or suggest *mitigating defects associated with delay times*. Defects associated with delay times can be traced to the sensitivity to airborne contaminants of chemically amplified resists used in electron beam lithography. Additional complications can arise with respect to temperature variations and stability. (See p. 3, ll. 1-6). The Examiner contends that this limitation is a recitation of intended use and must result in a structural difference. The Examiner continues by suggesting that the system of Peng *et al.* is capable of mitigating defects associated with delay times as recited in independent claim 1. Applicants' representative respectfully disagrees with such contentions. As the Examiner admits, Peng *et al.* relates to wafers and not reticles. A reticle is a mask that is used to produce a desired pattern on one layer of a semiconductor device. Thus, the testing systems of Peng *et al.* could not function on a reticle as the system of Peng *et al.* test the integrated circuit dice on a completely fabricated semiconductor wafer. Therefore, structural differences are necessarily implied and Peng *et al.* is required to teach such claimed limitations. Peng *et al.* is silent regarding fabricating reticles and inspecting reticles to mitigate defects associated with delay times as recited in independent claim 1. Thus, Peng *et al.* fails to disclose, teach or suggest each and every element of the claimed invention.

In the Final Office Action dated December 13, 2005, the Examiner contends that wafers and reticles are created in the same fashion. To this end, the Examiner relies on Le *et al.* to

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overcome the aforementioned deficiencies of Peng *et al.* Applicants' representative submits that Le *et al.* fails to cure the deficiencies of Peng *et al.*

In particular, Le *et al.* does not disclose, teach or suggest *mitigating defects associated with delay times* as recited in independent claim 1. Le *et al.* relates to a process for checking phase-shifting mask layouts to determine if the masks will produce the desired images. (See Summary). The pattern of a phase-shifting mask can often be very different from what is finally printed on a wafer. (See Background). Using aerial image simulation, a simulated wafer image is produced based on a provided layout image. The simulated wafer image is compared with the mask layout to verify if the desired pattern design was produced. (See col. 4, ll. 5-34). Thus, Le *et al.* is concerned with preventing the problem of incorrect pattern designs being printed on a wafer which is inherent in the use of phase-shifting masks and is silent regarding mitigating defects associated with delay times. Therefore, Le *et al.* fails to overcome the aforementioned deficiencies of Peng *et al.*

In view of at least the foregoing, it is readily apparent that Peng *et al.* and Le *et al.*, either alone or in combination, fail to disclose, teach or suggest each and every element recited in the subject claims. Therefore, the cited references do not make obvious applicants' claimed invention and this rejection should be withdrawn.

## II. Rejection of Claims 8, 10, 12-15 Under 35 U.S.C. §103(a)

Claims 8, 10, 12-15 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Peng *et al.* in view of Le *et al.* and further in view of Vernon (U.S. 6,331,711). Withdrawal of this rejection is requested for at least the following reasons. The cited references, either alone or in combination, fail to teach or suggest all elements of the subject claims.

In particular, the cited references do not teach or suggest *an inspection component to insure the critical dimensions fabricated on the reticle are not outside of desired tolerances and a data processing system component that determines what changes are needed to the system to improve reticle fabrication to fall within desired tolerances* as recited in independent claim 10. As discussed *supra*, Peng *et al.* relates to testing wafers for faulty dice and Le *et al.* relates to verifying a mask will produce the desired pattern when printed on a wafer. Peng *et al.* and Le *et al.* are silent regarding inspecting the critical dimensions fabricated on a reticle.

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Furthermore, Peng *et al.* and Le *et al.* fail to disclose, teach or suggest a data processing system component that determines what changes are needed to the system to improve reticle fabrication. As mentioned *supra*, Peng *et al.* relates to testing semiconductor wafers and uses test systems not applicable to reticles and thus does not determine changes applicable to improving reticle fabrication. Le *et al.* relates to checking the final wafer design of a mask layout to verify it will produce the desired print before the actual fabrication process and does not determine what changes in the fabrication process should be made to fabricate more suitable reticles. Thus, neither Peng *et al.* nor Le *et al.* disclose, teach or suggest such claimed aspects of the subject invention.

The Examiner relies on Vernon to cure the aforementioned deficiencies of Peng *et al.* and Le *et al.* Applicants' representative respectfully asserts that Vernon does not make up for the deficiencies. In particular, Vernon does not disclose, teach or suggest *a data processing system component that determines what changes are needed to the system to improve reticle fabrication to fall within desired tolerances* as recited in independent claim 10. Vernon relates to a system for correcting low frequency spatial errors present after primary scanning exposure by utilizing a secondary scanning exposure at a weaker intensity and greater area. (See Abstract). Vernon may correct systematic variations in critical dimensions, but it does not determine what changes are needed to the system to improve reticle fabrication. Rather, Vernon relates to determining the changes required to the reticle to correct variations in the reticle currently being fabricated. Vernon is silent regarding determining changes needed to the system to prevent the variations present after primary exposure from occurring in future fabrications and thus does not disclose, teach or suggest improving reticle fabrication to fall within desired tolerances as recited in the subject claims. Therefore, Vernon fails to cure the deficiencies of Peng *et al.* and Le *et al.* in regards to independent claim 10.

In view of at least the foregoing, it is readily apparent that the cited references fail to make obvious applicant's invention as recited in the subject claims, and this rejection should be withdrawn.

### **III. Rejection of Claim 9 Under 35 U.S.C. §103(a)**

Claim 9 stands rejected under 35 U.S.C. §103(a) as being unpatentable over Peng *et al.* as modified by Le *et al.* and Vernon, and further in view of Bojko. Withdrawal of this rejection is

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requested for at least the following reasons. Claim 9 depends from independent claim 1, and Vernon and Bojko, either alone or in combination, fail to cure the aforementioned deficiencies of Peng *et al.* and Le *et al.* Accordingly, applicants' representative respectfully requests that this rejection be withdrawn.

CONCLUSION

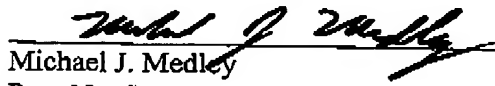
The present application is believed to be in condition for allowance in view of the above comments and amendments. A prompt action to such end is earnestly solicited.

In the event any fees are due in connection with this document, the Commissioner is authorized to charge those fees to Deposit Account No. 50-1063 [AMDP994US].

Should the Examiner believe a telephone interview would be helpful to expedite favorable prosecution, the Examiner is invited to contact applicants' undersigned representative at the telephone number below.

Respectfully submitted,

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